

US DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

APPLICANT: LEONID B. GLEBOV  
 FOR: SENSITIZATION OF PHOTO-THERMAL-REFRACTIVE GLASS TO VISIBLE RADIATION BY  
 TWO-STEP ILLUMINATION

LIST OF ART CITED BY APPLICANTU.S. PATENT DOCUMENTS

EXAMINER	DOCUMENT NO.	NAME	DATE	CLASS	SUBCLASS
AA	4,541,694	Sullivan, et al.	09/17/1985	350	371
AB	5,098,803	Monroe, et al.	03/24/1992	430	1
AC	5,339,305	Curtis, et al.	08/16/1994	369	112

## PATENT APPLICATION PUBLICATIONS

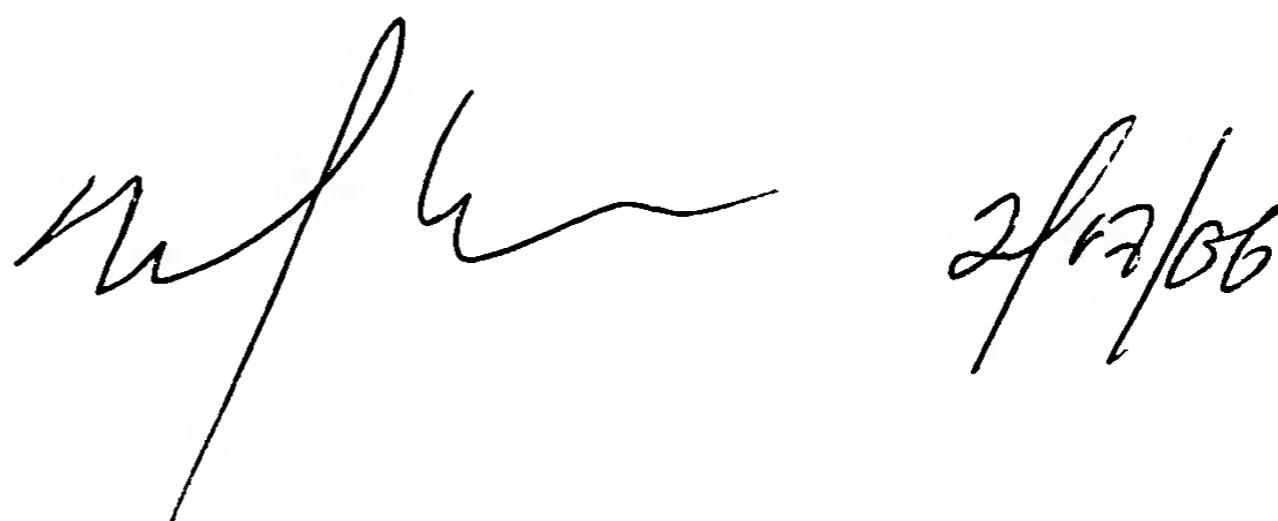
NONE

## FOREIGN ART

FA	JP03-081718	Morinaka, et al.	04/08/1991
----	-------------	------------------	------------

## OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

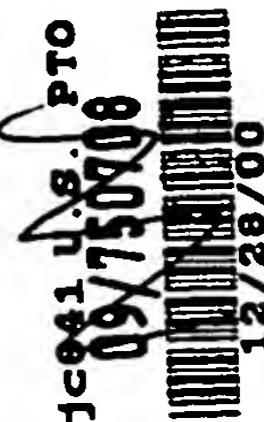
OA	(1979) A.P. Gararin, L.B. Glebov, O.M. Efimov, O.S. Efimova. Formation of color centers in sodium calcium silicate glasses with the nonlinear absorption of powerful UV radiation. Sov. J. Glass Phys. Chem. 5, Pages 337-340.
OB	(08/1988) IBM Tech. Discl. Bull., Vol 31(3), pp. 18-23.
OC	(1996) P. Hariharan. <u>Optical Holography. Principles, techniques, and applications</u> . Chapter 7: "Practical recording materials," 95-124. Cambridge University Press, Pages 95-97.
OD	(1997) A.V. Dotsenko, L.B. Glebov, V.A. Tsekhomsky, Physics and Chemistry of Photochromic Glasses. CRC Press, Boca Raton, NY., Pages 9-11
OE	(1999) Efimov, et al. "Laser-induced Damage of Photo-Thermo-RefRACTive Glasses for Optical-Holographic-Element Writing", SPIE Vol. 3578, pp. 564-575
OF	(1999) O.M. Efimov, L.B. Glebov, S. Grantham, M. Richardson. Photoionization of silicate glasses exposed to IR femtosecond pulses. Journal of Non-Crystalline Solids, 253. 58-67.
OG	(2002) O.M. Efimov, L.B. Glebov, H.P. Andre. Measurement of the induced refractive index in a photothermorefractive glass by a liquid-cell shearing interferometer. Appl. Optics, 41. 1864-1871


 Two handwritten signatures are present. The first signature, on the left, appears to be 'm' followed by a stylized surname. The second signature, on the right, appears to be '2/2/06'.

US DEPARTMENT OF COMMERCE  
 PATENT AND TRADEMARK OFFICE

*Glebov*  
 APPLICANT: EFIMOV, ET AL.  
 FOR: HIGH EFFICIENCY BRAGG GRATINGS IN PHOTO-THERMO-REFRACTIVE GLASS

10/66539

LIST OF ART CITED BY APPLICANT

Page 1 of 2

U.S. PATENT DOCUMENTS

EXAMINER	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
Wan	AA 3,640,604	02/08/72	YARNELL	350	162 SF	
Wu	AB 3,675,990	07/11/72	KOGELNIK, ET AL.	350	311	
Wu	AC 4,057,408	1/08/77	PIERSON, ET AL.	065	018	
Wu	AD 4,514,053	04/30/85	BORRELLI, ET AL.	350	162.2	
Wu	AE 4,567,104	01/28/86	WU	428	410	
Wu	AF 4,670,366	01/02/87	WU	430	13	
Wu	AG 4,894,303	01/16/90	WU	430	13	
Wu	AH 4,946,253	08/01/90	KOSTUCK	350	169	
Wu	AI 4,965,152	10/28/90	KEYS, ET AL.	430	01	
Wu	AJ 5,078,771	01/07/92	WU	65	30.11	
Wu	AK 5,196,282	03/23/93	KNOBBE	430	02	
Wu	AL 5,285,517	02/08/94	WU	385	142	
Wu	AM 5,486,934	01/28/96	HUANG	359	15	
Wu	AN 5,684,611	11/04/97	RAKULJIC, ET AL.	359	7	

FOREIGN PATENT DOCUMENTS

NONE

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

*Wu* OA1 *Optical Holography Principles, techniques and applications*, second edition, P. Hariharan, Cambridge University Press. pp 95-27

*Wu* OA2 *Full-Color Photosensitive Glass*, S. Donald Stookey, George H. Beall and Joseph E. Pierson, *Journal of Applied Physics*, Vol. 49, No. 10, October 1978, pp. 5114 - 5123.

*Wu* OA3 *Photolytic Technique for Producing Microlenses in Photosensitive Glass*, Borelli, Morse, Bellman and Morgan, *Applied Optics*, Vol. 24, No. 16, August 15, 1985, pp. 2520 - 2525.

*Wu* OA4 *Photothermal Refractive Effect in Silicate Glasses*, Borgman, Glebov, Nikonorov, Petrovskii, Savvin and Tsvetkov, *Sov. Phys. Dokl.*, Vol. 34, No. 11, November 1989, pp. 1011 - 1013

*Wu*9/20/02  
08/17/06

US DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

APPLICANT: Efimov, et al.  
FOR: HIGH EFFICIENCY BRAGG GRATINGS IN PHOTO-THERMO-REFRACTIVE GLASS

10/665339

LIST OF ART CITED BY APPLICANT

Page 2 of 2

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

*✓ OA5* *Polychromic glasses – A New Material for Recording Volume Phase Holograms*, Glebov, Nikonorov, Panyshova, Petrovskii, Savvin, Tunimanova and Tsekhomskii, Sov. Phys. Dokl, Vol. 35, No. 10, October 1990, pp. 878 – 880.

*✓ OA6* *New Ways to Use Photosensitive Glasses for Recording Volume Phase Holograms*, Glebov, Nikonorov, Panyshova, Petrovskii, Savvin, Tunimanova, and Tsekhomskii, Opt. Spectrosc., Vol. 73, No. 2, August 1992, pp. 237 – 241.

*✓ OA7* *Photo-Induced Processes in Photo-Thermo-Refactive Glasses*, Glebov, Glebova, Richardson and Smirnov, XVI International Congress on Glass, San Francisco, CA, July 5 – 10, 1998.

*✓ OA8* *High-Efficiency Bragg Gratings in Photothermorefractive Glass*, Efimov, Glebov, Glebova, Richardson and Smirnov, Applied Optics, Vol. 38, No. 4, February 1999, pp. 619 – 627.

*✓ OA9* *Photo-Thermo-Refactive Glasses for High-Efficiency Bragg Gratings in UV, Visible, and IR Regions*, Efimov, Francois-Saint-Cyr, Glebov, Glebova, Richardson and Smirnov.

*Mr. Hart* 9/30/02  
2/17/06

<b>Notic of References Cited</b>		Application/Control No.	Applicant(s)/Patent Under R examination EFIMOV ET AL. <i>Gleb</i>	
		09759,708 <i>1c/665339</i>	Examiner Martin J Angebranndt	Art Unit 1756

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-4541694	09-1985	Sullivan et al.	350/371
	B	US-5098803	03-1992	Monroe et al.	430/1
	C	US-5339305	08-1994	Curtis et al.	369/412
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N	03-081718	04-1991	Japan	Morinaka et al.	
	O					
	P					
	Q					
	R					
	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	IBM Tech. Disc. Bull., Vol 31(3) pp. 18-21 (08/1988)
	V	EFIMOV, et al. "Laser-induced Damage of Photo-Thermo-Refractive Glasses for Optical-Holographic-Element Writing", Proc. SPIE Vol. 3578, pp. 564-575 (1999)
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

*WJF* *2/7/06*